1916

[Diamonds in] Brazil

Benjamin LeRoy Miller

Joseph T. Singewald Jr.

Brazil.—For the first time in the history of Brazilian diamond mining, diamonds are now reported to have been found there in the matrix, rendering it possible to carry on regular diamond mining operations, instead of mere washing. This discovery is stated to have been made by Dr. Eberhard Rimann, who has devoted special study for many years to the South African diamond mines, and was called in 1912 to the National Geological Institute in Rio de Janeiro as chief mineralogist and petrographer.

The Brazilian state of Bahia exported to the United States, in 1915, rough diamonds to the weight of 11,803 carats, and 3714 carats of carbonados. The mining operations in this State are mainly carried on by small individual undertakings. Most of the diamonds were of ½ carat or less, and the average price at which they were invoiced was about $18 per carat. The carbonados sold at a higher figure. These "miners' diamonds," as they are sometimes called, because of their employment in drills, etc., were invoiced at the United States consulate in Bahia as follows: ¼-carat stones, $12 to $14; ½-carat stones, $16 to $20; ¾-carat, $20 to $23; 1-carat, $25; 2-carat and upward, $35.[2]

Brazil (By Benjamin L. Miller and Joseph T. Singewald, Jr.).—Although diamond mining, or diamond washing, has been carried on continuously in the Brazilian fields since 1721 they are still far from exhaustion and each year the yield is sufficient to support several large and prosperous communities. Unquestionably the largest and richest pockets, such as pot-holes in the beds of the streams, have been worked out, yet the area over which diamond-bearing materials is spread is so extensive that the diamond industry of the country will continue for many years to come.

Minas Geraes, Bahia, Goyaz, and Matto Grosso, named in the order of their importance, are the States where diamonds are found. The manner of occurrence in all places is the same and the original rock matrix remains conjectural. It is believed, however, that they were originally contained in some igneous rock, probably a peridotite, and on its de-

[2] Consul Robert Frazer, Jr., of Bahia, in *Comm. Repts.*, Feb. 18, 1916, p. 675.

composition and disintegration, the diamonds were released and transported by streams to inland lakes, seas, or the ocean, where they were deposited with other materials, mainly grains and pebbles of sand. Later these loose particles were cemented to form sandstones or conglomerates. In a few places, diamonds have been found in these firm quartzose rock, but not in workable quantities. When the rocks have disintegrated and the particles again concentrated by running water the diamonds are now found. First the stream gravels were worked but as they have been worked over, in some cases, several times, they now yield few diamonds and the higher-lying terrace gravels furnish most of the stones.

At the Sopa mine in the Diamantina district an English company tried to work the ground on an extensive scale by means of steam shovels but without success, although £250,000 was spent in the project, and in 1915 the expensive machinery was sold at great sacrifice. The irregularity of the diamond-bearing earth is such that the shovel method is the only practicable one. The concentrating work is done in part by means of jigs and in part by the batea.

The lack of sufficient water to wash the gravels during the dry season greatly reduces the output of the Brazilian fields. The annual production of the country can only be guessed as the Government tax on the stones causes many of the producers to conceal their finds and to dispose of them secretly. Many of the stones are cut in Diamantina although the work is usually so poorly done that some are recut in America or Europe.

Two projects have been started to work the diamond and gold placers along the Jequitinhonha River but so far without success. In 1915 another company, financed by American capital, was carrying on investigations in another part of the river with the intention of later constructing a dredge if the results of the prospect work justify the undertaking. One of the dredge enterprises was a failure on account of the later discovery that most of the ground had already been worked, probably 100 or 150 years ago by diverting the stream by means of dams, and in another case the dredge was torn from its moorings during a flood and lost. At present, therefore, it has not been proved whether dredging for diamonds and gold in the large streams can be carried on with profit or not. If dredging proves successful no doubt the output of Brazilian diamonds will materially increase during the next few years as there is believed to be considerable virgin ground along several of the large streams, especially the Jequitinhonha River.